

ABERRANT AUSTRALIAN BRACHYPTEROUS MYODOCHINE BUGS (LYGAEIDAE, RHYPAROCHROMINAE)

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Plates 14-16

SUMMARY

This paper deals with the systematics of a predominantly brachypterous group of rather specialized Australian bugs of the Lygaeid tribe Myodochini. Three new genera are erected and fourteen species of the Australian fauna discussed. Five of the species are new and some synonymy of the others is proposed.

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ABBREVIATIONS

The following abbreviations are used in citing the location of material. S.A.M.—South Australian Museum, Adelaide; N.M.—National Museum, Melbourne; A.M.—Australian Museum, Sydney; C.S.I.R.O.—Division of Entomology, C.S.I.R.O., Canberra; W.A.R.I.—Waite Agricultural Research Institute, Adelaide; B.M.—British Museum (Nat. Hist.), London; R.M.S.—Riksmuseet, Stockholm.

INTRODUCTION

Classification of the subfamily Rhyparochrominae on the tribal and subtribal level has always presented considerable difficulties, and several markedly different schemes have been proposed. Stål (1872) divided the subfamily into six divisions—Myodocharia, Rhyparochromaria, Beosaria, Gonianotaria, Lethoearia and Drymaria, then again in 1874 placed the subfamily in five divisions—Cleradaria, Myodocharia, Rhyparochromaria, Beosaria and Lethoearia. Distant (1903) recognized the first three of Stål's 1874 divisions, but lumped the last two into the group Aphanaria.

Gulde (1934) added two other tribes to these of Stål (1874), Pterometini and Stygnocorini, Scudder (1957) found the characters used up to that time to be rather unreliable and based a new classification on the position of the trichobothria and spiracles, together with the spermathecae. He divided the subfamily into four tribes, Rhyparochromini, Lethaeini, Drymini, and Stygnocorini. He further subdivided the Rhyparochromini into three subtribes Gonianotina, Rhyparochromina, and Plociomerina. Slater (1957) suggested the names for the Rhyparochrominae and Rhyparochromini should be Megalonotinae and Megalonotini, but this has been shown to be incorrect.

Slater and Sweet (1961) and Sweet and Slater (1961) raised the number of tribes to eight, retaining Scudder's (and others') concept of Lethaeini and Drymini but splitting his Stygnocorini into Cleradini and Plinthisini, rearranging his Rhyparochromini into four tribes, Myodochini, Rhyparochromini, Beosini, and Gonianotini, of which only the first tribe is still substantially the same as in Scudder's concept.

In fact all of these classifications agree on placing in the one section a group of genera which have the pronotum constricted near the middle (and hence divided into two lobes) and in which the lateral margins of the pronotum are not explanate or acute but obtuse or rounded. Stål and Distant called it the division Myodocharia, Scudder the subtribe Plociomerina, Slater and Sweet the Myodochini, but all agree in placing in it genera of the general appearance of *Erlacda* Signoret, *Eucosmetus* Bergroth, *Myodocha* Latreille, *Pachybrachius* Hahn, *Paromius* Fieber and *Ptochiomera* Say. Scudder's classification differs in one point. Whereas his Plociomerina (without exception so far as I can judge from published figures) contains genera of the general appearance of those just listed, not all genera

of this appearance belong to the "Plociomerina"; e.g., *Bedunia* Stål (= *Austropamera* Distant) belongs to the Stygnocorini.

It came as a considerable surprise to both Scudder and myself when working on our joint revision of *Dieuches* Dohrn to find the anomalous *Dieuches rafaelli* Evans belonged to the Myodochini. Subsequently I found *D. rafaelli* to be a synonym of *Euander lacertosus* (Erichson) and that related to *Euander* in our collections were a series of other genera including *Udeocoris* Bergroth, the Australian species of "*Lamprodema*", and several new genera, all belonging likewise to the Myodochini. Scudder working independently discovered that "*Lamprodema*" *coleopteroides* belongs to the Myodochini, but that *L. maura* belongs to the Rhyparochromini (*in litt.*).

These make up a group of genera and species related to *Euander*, and in general do not resemble closely the other Myodochines. An incipient transverse constriction of the pronotum is present in several of the genera (*Euander* Stål and *Porander* gen. nov.) but in two other genera (*Udeocoris* Bergroth, and *Telocoris* gen. nov.) this is quite absent. All the species tend to be flattened and shiny and brachypterous forms are common, along with normal, macropterous ones in the same species. Several of the species are known only from brachypterous forms.

Frequent development of brachyptery tends to link this group with a group of genera which, although the pronotum is distinctly divided into two lobes, are brachypterous. This second group includes *Fontejus* Stål (= *Albanyaria* Distant) and two new genera *Cryptocoris* gen. nov. and *Zygocoris* gen. nov., all from Australia, and from other regions *Aegyptocoris* China, *Carpilus* Stål, *Cnemodus* H. and S., *Erlacda* Signoret (sometimes), *Ptochiomera* Say (sometimes), *Prytanes* Distant and *Sisammes* Distant, amongst others.

It is hard to avoid the conclusion that the first group makes up a section of the brachypterous Myodochini diverging from the general facies of the tribe. It is possibly a late development in the group towards specialized small shining forms, and linked through *Euander*, *Porander* and the *Fontejus*, *Ptochiomera* group of genera with the more typical fast-moving Myodochines of the litter and soil surface. *Euander* and *Porander* definitely live on low shrubs in the forests of higher rainfall areas, *Udeocoris* is a soil surface inhabitant of either wet or arid areas, but the exact habitat of the others, whether heath-like plants or the deep litter layers, remains undetermined.

Although genera like *Udeocoris* and *Telocoris* are very distinct in appearance from the other Myodochini they are very close in structure

to forms like *Euander* and *Porander*, where the transverse constriction between the two lobes of the pronotum is fully developed. These in turn grade into forms like *Cryptocoris*, *Zygocoris* and *Fontejus* where the pronotal constriction is very well marked. This has necessitated this paper including all the Australian genera of Myodochini in which brachyptery occurs.

The genera and species of the brachypterous section of Australian Myodochini may be distinguished by the following key:—

1. Pronotum with an incipient transverse constriction near or well behind the middle 2
 - Pronotum without any trace of a transverse constriction, although the hind portion may be paler than the anterior 11
2. Pronotum with transverse constriction just behind middle 3
 - Pronotum with transverse constriction well behind middle 5
3. Hemelytra always macropterous, hind margin of pronotum concave in front of scutellum *Euander lacertosus* (Erichs.)
 - Hemelytra macropterous or with very reduced membrane, hind margin of pronotum shallowly curved over whole length 4
4. Hind lobe of pronotum mostly pale, likewise hemelytra, at least in brachypterous form *Euander torquatus* (Erichs.)
 - Hind lobe of pronotum dark with two prominent pale lateral patches, hemelytra mostly dark *Euander cicero* sp. nov.
5. Pronotum and head for the most part smooth and shining 6
 - Pronotum, head and scutellum coarsely and densely punctate *Porander scudderi* gen. nov. & sp. nov.

6. Pronotum not markedly longer than wide, fore femora incrassate or not 7
 Pronotum conspicuously longer than wide, fore femora incrassate 8
7. Fore femora not incrassate, corium dark with a pale oblique marginal fascia *Cryptocoris fasciata*
 gen. nov. & sp. nov.
- Fore femora incrassate and finely spined beneath, corium ochraceous with three lateral black spots *Fontejus multicoloratus*
 (Dist.)
8. Hemelytra not surpassing middle of abdomen *Zygocoris tindalei* gen.
 nov. & sp. nov.
- Hemelytra surpassing middle of abdomen 9
9. Hemelytra dark, at least apically, with conspicuous oblique pale marginal fascia near apex *Fontejus sidnicus* (Stål)
- Hemelytra ochraceous or ochraceous-piceous, nearer black 10
10. Hemelytra evenly coloured pale ochraceous, or ochraceous-piceous, with only the vaguest suggestion of two pale lateral lighter areas *Fontejus collaris*
 (Walker)
- Hemelytra castaneous with several areas of yellowish-ochraceous on the disc, and two luteous patches on margin near apex. Scutellum with a paler patch near each basal angle *Fontejus westraliensis*
 sp. nov.
11. Hind portion of pronotum lighter in colour than anterior region 12
- Hind portion of pronotum for the most part concolorous with anterior region, and possibly humeral angles pale 13

12. Hemelytra with small scattered
 fuscous patches *Udeocoris rolandi*
 (Dist.) comb. nov.
- Hemelytra with a large curved band of
 fuscous in the posterior region of
 corium running from behind middle
 of outer margin to claval suture
 running along claval suture to hind
 margin of corium and along hind
 margin to outer margin *Udeocoris scudderi*
 sp. nov.
13. Corium and clavus mainly dark *Udeocoris nigroaeneus*
 (Erichs.)
- Corium and clavus mainly pale *Telocoris vittata* (Dist.)
 gen. nov. & comb. nov.

Fontejus Stål 1862

Fontejus Stål, 1862, Stettin. ent. Ztg., 23: 314. 1865, Hemiptera
 Africana 2: 153. 1874, K. svenska Vetensk Akad. Handl., 12 (1):
 145 & 154.

Albanyaria Distant, 1918, Ann. Mag. nat. Hist., (9) 2: 258, *new
 synonymy*.

Head triangular, somewhat longer than wide, eyes not touching
 anterior margin of pronotum. Antennae moderately long, first
 segment surpassing apex of head. Pronotum elongate, constricted
 near base. Anterior margin almost straight, hind margin feebly
 convex. Lateral margin feebly convex in front of constriction. No
 obvious collar to pronotum.

Scutellum a little longer than wide. Hemelytra abbreviated, not
 reaching apex of abdomen, membrane very reduced and dividing line
 between clavus and corium obscure.

Fore femora very incrassate with a number of teeth in the apical
 halves. Fore tibiae feebly curved with in the male a prominent spine
 beyond the middle.

Head, pronotum, hemelytra and fore femora with long sparse hairs
 in addition to the normal fine pilosity shown throughout this group
 of genera.

Type of genus: *Fontejus sidnicus* (Stål)

This genus is the most closely related of this whole group of Australian brachypterous genera of Myodochini to the normal *Pachybrachius* and *Eucosmetus* type. The constriction in the pronotum is placed well posteriorad (except in *F. multicoloratus*); the whole facies is typically Myodochine and is not greatly different from that of extra-Australian brachypterous Myodochine genera.

***Fontejus sidnicus* (Stål)**

Plate 14, fig. B

Rhyparochromus sidnicus Stål, 1859: K. svenska Fregatten Eugénies Resa etc. 11 (1): 246.

Black or dark chocolate brown with brown and yellowish-white markings. Head with eyes black or dark chocolate brown. First three segments of antennae dark brown, second and third infuscated at apex. Fourth black with a broad luteous band near base.

Pronotum concolorous with head, except for two pale luteous points, one on either side just behind constriction. One specimen has two additional luteous patches along the hind margin. Hind margin shallowly excavate, exterior margin with distinct wide collar, lateral margins convex to constriction, behind that convex again.

Scutellum always black with extreme apex luteous. Sparsely punctate.

Corium and clavus difficult to distinguish and chocolate brown, either becoming black apically, or all black. On the lateral margin three luteous patches, one at the extreme apex and the second at about level of tip of scutellum small, the third on the margin at the three-quarter spot, large, oblique, reaching almost to mid-line of each hardened "elytron". Without membrane, and hemelytra reaching back to about two-thirds length of abdomen.

Abdomen above always black, with two pale luteous patches, one alongside the large luteous patch on hemelytra, the other just behind apex of hemelytra.

Body beneath black or chocolate brown. Rostrum dark brown. Pale spots above insertion of coxae and on lateral margins of abdomen contiguous with those above.

Fore femora black, armed beneath with a single row of six stout spines. Legs otherwise dark brown, femora paler basally.

Head, pronotum, hemelytra and fore femora covered with sparse long hairs.

Length: 6 mm.

Locality: South Australia: Stickney Island, N. B. Tindale; Meningie, 12 September 1959, H. V. Mincham; Ardrossan, February 1879, collector not indicated; attracted to light, Ravine des Casoars, Kangaroo Island, 18 October 1951, G. F. Gross (S.A.M.). New South Wales: North Sydney, Taronga Park, 14 October 1913, A. Musgrave (A.M.).

***Fontejus collaris* (Walker)**

Plate 14, fig. D

Rhyparochromus collaris Walker, 1872, Cat. Heter., 5: 111. Distant, 1901, Ann. Mag. nat. Hist. (4) 8: 510.

Fontejus collaris Stål, 1874, K. svenska Vetensk. Akad. Handl., 12 (1): 154.

Walker and Stål's descriptions appear to apply to the same insect although in Stål's account no reference is made to Walker's description. Distant says Walker's type is lost.

Black and chocolate brown. Head, anterior lobe of pronotum, scutellum, fourth segment of antennae (except for pale luteous sub-basal ring) and sometimes apices of first, second and third segments and femora black.

Antennae, hind lobe of pronotum, hemelytra, upperside of abdomen (except for a broad median longitudinal yellowish or pale brown strips), tarsi and tibiae (latter apically infuscated) brown to chocolate brown. Some small pale patches on hemelytra and hind lobe of pronotum, tip of scutellum pale.

Beneath head and thorax black, except just above insertion of coxae, which is luteous. Rostrum and abdomen chocolate brown, abdomen beneath and above with a fine reddish pilosity. Head, pronotum and hemelytra with a sparse long pilosity.

Length: 6-8 mm.

Locality: Tasmania: one male in tussocks, New Norfolk, A. M. Lea; one male, Hobart, 6-16 November 1928, C. Cole; one female No. 2218, Scamander (S.A.M.); Eaglehawk Neck, 12 February-3 March 1913, R. E. Turner (B.M.). South Australia: Cooper Creek, W. E. Hodson (B.M.).

Walker records the species from Tasmania and South Australia (Adelaide), Stål from New South Wales (Sydney).

Fontejus westraliensis sp. nov.

Plate 14, fig. C

Very similar in general appearance to *F. collaris* Walker. Chocolate brown. Eyes and first and fourth segments of antennae black, the latter with a pale luteous subbasal ring.

Pronotum with a dark median longitudinal stripe and sometimes the very lateral margin infuscated. Scutellum mostly black, but with reddish-chocolate basal angles and a luteous tip.

Hemelytra chocolate, with a pattern of paler and darker patches, two feebly marked pale lateral fasciae near apex of hemelytra.

Upperside of abdomen reddish-chocolate and black variegate.

Underside of head, pronotum and abdomen black. Luteous immediately above fore and hind coxae, reddish-chocolate patches on the hind margin of the abdominal segments, lateral margin of abdomen also reddish-chocolate variegate. Middle and hind femora and all tibiae and tarsi apically infuscated.

Underside of abdomen with a fine golden silky pilosity, pronotum and on hemelytra with long sparse hairs.

Length: 7 mm.

Locality: Western Australia: Holotype male and allotype female, Katanning, 2 May 1938, K. R. Norris (C.S.I.R.O.).

This species is easily distinguished from *F. collaris* by the variegated hemelytra, which contain several areas of black, by the brown head, and the wholly brown pronotum, which has a darker longitudinal median streak.

Fontejus multicoloratus (Distant) nov. comb.

Albanyaria multicolorata Distant, 1918: Ann. Mag. nat. Hist., (9) 2: 258.

"Head, anterior lobe of pronotum, and the scutellum black; the narrow posterior pronotal lobe and the extreme apex of scutellum greyish white; antennae ochraceous, apex of third joint and more than apical half of fourth black; corium ochraceous, the lateral marginal areas with the three prominent black spots, the smaller near base, the largest near middle, and the third at apex, the exposed apical area of the abdomen black; body beneath black; posterior sternal segmental margins very pale ochraceous; legs reddish ochraceous, apical halves of the anterior femora and apices of the tibiae and tarsi black;

antennae with the second joint slightly longer than the third and about subequal with the fourth; scutellum more or less rugosely punctate; clavus linearly somewhat coarsely punctate; rostrum ochraceous, the basal joint black, remaining joints imperfectly seen in carded type." (Distant's original description.)

Length: 5½ mm.

Locality: Western Australia: Albany (J. J. Walker) Distant's type (B.M.) King George Sound, no collector (G. G. E. Scudder, Vancouver).

I have not seen this species. *Fontejus multicoloratus* along with *Cryptocoris fasciata* seems to mark the next step forward in the divergence of certain Australian Myodochines from the characteristic facies of the group. In these two genera the pronotum is considerably shortened and is barely longer than wide and this is also typical of all the following forms treated in this paper.

Genus *Zygocoris* gen. nov.

Head elongate, rather acuminate, eyes not very prominent and placed well in front of pronotal margin. Pronotum hardly wider than head with eyes, with an incipient transverse sulcus placed only a short way in front of the hind margin. Anterior margin of pronotum concave, posterior margin almost straight, lateral margins almost straight from forward of sulcus curving in just before apex and also in region of sulcus. Margins of posterior lobe somewhat divergent from sulcus backwards. Collar flattened, not very distinct.

Scutellum small, about as long as wide. Hemelytra very coriaceous and "elytra like", corium and clavus not separable and no trace of membrane, abbreviated, not reaching behind middle of abdomen.

Fore femora very expanded, only twice as long as wide, not quite circular in cross section but feebly flattened laterally with three moderate teeth and a number of only slightly smaller ones on the underside in the apical half. Fore tibiae shorter than femora, strongly curved, apices expanded, with two rows of denticles on their under surfaces. Hind tarsi with the first segment not longer than apical pair together.

Type of genus: *Zygocoris tindalei* sp. nov.

This genus has affinities with the previous one, *Fontejus*, but differs from it in its longer head and pronotum and massive front

femora. It also appears to be quite close to *Fontejanus* Breddin from India. Like *Fontejanus* it has massive front femora, curved and armed front tibiae, a sulcus on the pronotum placed just in front of the hind margin and very abbreviated hemelytra. It differs from *Fontejanus* in not having the eyes touching the anterior margin of the pronotum; it does not appear to have ocelli; the mid femora are unarmed and the first segment of the third tarsi is shorter than the apical pair together. *Fontejanus* must be considered a member of this new group of Myodochini by virtue of the brachypterous condition of the hemelytra, although the transverse sulcus of the pronotum is strong and gives it a more typical Myodochine pronotum than others of these Australian genera. The link between typical Myodochini appears to be either through *Zygocoris* and *Fontejanus* or through *Euander*.

***Zygocoris tindalei* sp. nov.**

Plate 15, fig. E

Chocolate brown with hind lobe of pronotum and ground colour of "elytra" luteous white. "Elytra" with a T-shaped fuscous patch with the head of the T laying along the inner margin, and the stem of the T reaching the outer margin at about the middle. Middle and hind femora, all tibiae and tarsi, extreme apices of fore femora, second segment of antennae (except at apex), and base of third segment, yellowish or yellowish brown.

Head smooth and shining, with sparse long hairs. Anterior lobe of pronotum sparsely punctate, otherwise smooth and shining and also with sparse long hairs. Hind lobe of pronotum and "elytra" sparsely punctate, the punctations are brown in the pale areas.

Scutellum black, with pale tip, feebly transversely impressed in front of middle. Hemelytra very abbreviated into coriaceous "elytra", apical margin truncate, feebly sinuate, outer apical angles rounded.

Body beneath shining brown, with a short sparse white pilosity.

Length: 4-5 mm.

Locality: South Australia: Holotype male, allotype female and three paratype females, Mount Lofty Ranges, N. B. Tindale (S.A.M.). Paratype male and two paratype females, ex soil Gile's Corner, July 1950 (W.A.R.I.). Australia: Four paratypes, with *Camponotus* or *Iridomyrmex* (Formicidae) (S.A.M.).

Genus *Cryptocoris* gen. nov.

Head about as long as wide, feebly convex, eyes not very prominent, almost touching anterior margin of pronotum. No ocelli. Pronotum as wide as or slightly narrower than head with eyes, widest at anterior and posterior margins. Anterior margin of pronotum straight, posterior margin feebly concave. Lateral margins straight and converging as they run back towards constriction which is placed well posteriad, thence diverging again to hind margin. No collar.

Scutellum fairly small, almost equilateral. Hemelytra coriaceous and elytra-like, corium and clavus not separable and strongly but sparsely punctate: a very reduced membrane present. Hemelytra reach a little behind middle of abdomen.

Fore femora somewhat enlarged, with some terminal teeth beneath. Fore tibiae feebly curved. First segment of hind tarsi longer than remaining two together.

Type of genus: *Cryptocoris fasciata* sp. nov.

This genus appears to have some affinities with *Zygocoris*. The fore femora are neither so markedly expanded nor so conspicuously armed. In common with several other genera in this section it has abbreviated hemelytra, but the pronotum is not so elongate and in this feature it appears to be allied to the next genus.

***Cryptocoris fasciata* sp. nov.**

Plate 15, fig. C

Shining black. Hind lobe of pronotum and a spot on the lateral margin of hemelytra luteous. Membrane milky white. Basal exterior margin of hemelytra, tibiae, tarsi and second segment of antennae pale brown infuscated at apex. Eyes, third and fourth segments of antennae and basal two-thirds of first segment dark brown. Beneath black, hind margin of prothorax and metathorax broadly, and a spot on the mesothorax above insertion of coxae, luteous.

Head smooth and shining, with several long sparse hairs. Anterior lobe of pronotum likewise smooth and shining, with a few shorter pale hairs. Hind lobe with a few pale brown punctations near transverse constriction. Scutellum and coriaceous portion of hemelytra also smooth and shining. Scutellum and hemelytra with a moderate number of coarse punctations arranged in rows. Hind margin of

abbreviated and fused corium and clavus straight. Oblique lateral margins broadly convex. Hemelytra with short and sparse pilosity.

Beneath with a fine short pilosity.

Length: 3-4 mm.

Locality: South Australia: Holotype, Lucindale, Feuerheerd (S.A.M.). A.C.T.: Allotype and one paratype, Blundell's¹, under stones, 16 September 1930, W. K. Hughes (C.S.I.R.O.).

Genus *Euander* Stål.

Euander Stål, 1865, Hemiptera Africana 2: 154. 1874, K. svenska Vetensk Akad. Handl., 12 (1): 156.

Pronotum at apex as wide as head with eyes, as long as wide or a little longer, lateral margins obtuse, narrowed towards apex, behind middle slightly sinuate. Anterior margin of pronotum slightly elevated and forming a feeble collar, pronotum with an obsolete transverse sulcus behind middle, hind lobe paler than fore lobe.

Scutellum distinctly longer than wide. Corium and clavus with distinct rows of punctations with scattered punctations between them.

Fore femora moderately incrassated, beneath with three largish teeth and many smaller ones, fore tibiae of male curved and with a large tooth towards apex. First segment of hind tarsi as long as apical pair together.

Type of genus: *E. lacertosus* (Erichson)

Euander marks the next step forward in the development of the peculiar endemic group of Australian genera, the transverse constriction of the short pronotum has moved anteriorly to the middle, changing the whole facies of the insect.

Euander lacertosus (Erichson)

Plate 16, fig. A

Pachymerus lacertosus Erichson, 1842: Archiv für Naturges., 8 (1): 279. Woodward, 1962: J. ent. Soc. Qld., 1: 50, figs.

Rhyparochromus lacertosus Dohrn, 1859, Catalogus Hemipterorum: 34.

¹ This locality, which appears in several other places in this paper, was a farm 18 miles west of Canberra at the eastern foot of Mount Coree, since resumed for water conservation purposes, and now largely planted in pine forest.

Euander lacertosus Stål, 1867, Berlin ent. Ztg., 10: 161. 1874: K. svenska Vetensk Akad. Handl., 12 (1): 158.

Rhyparochromus pictipennis Dallas, 1852: List. Hem. Ins., 2: 571. (new synonymy)

Dieuches pictipennis Distant, 1901: Ann. Mag. nat. Hist., (7) 8: 504.

Dieuches rafaelli Evans, 1939: Bull. ent. Res., 30: 305. (new synonymy)

The species is also mentioned and figured but not named by Lea, 1908, Insect & Fungus Pests of Orchard and Farm (Hobart 3rd Ed., 73-74.

Black, with brown and yellowish white markings. Head and eyes mainly black, head has patches of heavy pubescence. First segment of antennae black with a few small strong spines, second segment mostly brown, apex black, third segment with basal third brown, distal two-thirds black, last segment black with a pale band near base.

Anterior lobe of pronotum black with hoary punctations near edge, collar brownish with three conspicuous yellowish points. Hind lobe luteous with black punctations. Hind margin of pronotum excavate in front of scutellum, lateral margins with a whitish- or yellowish-spot in the position of the sulcus.

Scutellum black, with extreme apex white and usually two orange points near the apex on the disc. A few scattered punctations on the disc.

Corium and clavus in the main yellowish—testaceous with several rows of dark punctations, mostly following the curve of the veins, and many other scattered punctations. There are several small fuscous spots and a large black spot on the disc of the corium two-thirds of the way back. Also the extreme apex is black. Reflexed margin luteous. Membrane blackish or brownish with veins pale, together with many pale points. Hemelytra always fully developed.

Body beneath black, with a very fine adpressed silky pilosity, episterna and epimera of each thoracic segment pale. Trochanters, bases of second and third femora, tibiae except at apices and tarsi brownish. Fore tibiae always curved expanded at apex, and in the males with a prominent tooth at base of expansion.

Length: 5-7 mm.

Foodplants: Common in dry sclerophyll forest in South Australia; a pest of strawberries in Tasmania.

Our figure checked by Dr. T. E. Woodward in Europe, against Erichson's type.

Locality: Queensland: Cedar Creek, Mjöberg; Mount Tambourine, Mjöberg; Herberton, Mjöberg (R.M.S.). New South Wales: Three, Bombala, January 1930, Rev. A. J. Barrett (Reg. Nos. K 61432 and K 61180); Mount Irvine, 31 January 1944, B. A. Messmer; Nepean River, Glenbrook Creek, 25 February 1923, A. Musgrave; Sawpit Creek, Mount Kosciuszko, 8 January 1929, A. Musgrave (A.M.) Dorriggo (S.A.M.); two, Nullo Mountain, 20 m. N.E. of Rylstone, 20 November 1950, T. G. Campbell; two, Island Bend, Snowy Mountains, 20 October 1951, D. J. Wimbush (C.S.I.R.O.). Australian Capital Territory: Six, attacking strawberries, 4 December 1940, A. J. Nicholson; three, Blundell's, 7 January 1930, J. Evans; Canberra, May 1929, J. Evans; Canberra, February, G. F. Hill; Cotter River, 24 (month not distinct), 1929, M. Fuller; Jervis Bay, 18 September 1951, T. G. Campbell (C.S.I.R.O.). Victoria: Toora, 16 December 1937, R. V. Fyfe (C.S.I.R.O.); near Melbourne, G. F. Hill; Kewell (S.A.M.); Mallee District 1913, donated 5 October 1922 by F. P. Spry (N.M.); Ferntree Gully, 16 October 1927, F. E. Wilson (A.M.). Tasmania: Three, Launceston (No. 2218); Launceston 12 February 1914; Launceston, 1 March 1914; Launceston; Launceston, 1 April 1916, F. M. Littler; five Hobart (Nos. 7-6-16/1, 3-6-17/21, 23, 24 and 25—possible these are dates), C. E. Cole; in fallen leaves, Hobart, Lea (S.A.M.) Lake St. Claire, 13 January 1937, G. and C. Davis; Rinadeena Siding, Mount Lyell Line, 11 January 1937, G. and C. Davis; Lake Margaret, 12 January 1937, H. and C. Davis (A.M.); Moogara, January 1938, T. Raphael (coll. G. G. E. Scudder, Vancouver). South Australia: Thirty-seven, by sweeping undergrowth, *Eucalyptus obliqua* dry sclerophyll forest, Naracoorte Cave Reserve, 25 October 1958, G. F. Gross; on *Poa caespitosa* scrub, Hundred of Joanna, 28 October 1958, N. B. Tindale; three, Clare, 19 April 1884, J. G. O. Tepper; two, Vivonne Bay, Kangaroo Island, Museum Expedition, February 1926; St. Marys (S.A.M.); in large numbers on Cape Weed, *Cryptostemma calendulaceum*, Inman Valley, 25 January 1955, P. M. Grosvenor; attacking strawberries; Ashton, November 1945, Mr. Hook (W.A.R.I.). Western Australia: King George Sound (B.M.); Collie, 13 January 1957, A. Snell (N.M.).

***Euander cicero* sp. nov.**

Plate 14, fig. A

Black with brown and yellowish-white markings. Head black, with patches of hoary pubescence, more elongate than in *E. lacertosus*. First segment of antennae black, second black at apex and third black

in terminal half, otherwise brown, fourth segment black with a luteous band near base.

Anterior lobe of pronotum velvety black with three pale points on anterior margin. Hind lobe likewise velvety black except for two large luteous areas along each lateral margin and two obsolete brown longitudinal bars, one on each side of mid line.

Scutellum completely velvety black. Corium and clavus velvety black with most of the basal half of corium and outer half of clavus contiguous to it luteous, also a large oblong luteous area on each lateral margin near apex. Some brownish marks on apical exterior angle of clavus and apical interior area of corium. Membrane dark grey with some lighter points, very reduced. Distinction between corium and clavus clear.

Body beneath black, abdomen and underside of head with a hoary white pubescence. Propleurae and mesopleurae strongly punctate and with a trace of a pale lemon yellow around each punctation. Metapleurae basally strongly rugulose. A spot above insertion of coxae on propleurae and metapleurae to dorsum luteous.

Second segment of rostrum, basal third of all femora, tarsi (except apically), and tibiae brown. Apices of fore tibiae expanded.

Length: 4-5 mm.

Locality: New South Wales: Holotype female and one paratype (head and thorax only), Hotel Kosciusko, Snowy Mountains, October 1957, D. J. Wimbush (C.S.I.R.O.); three paratype females, Mount Kosciusko, January 1957, H. J. Carter (A.M.). Australian Capital Territory: One paratype female, Mount Gingera, 5 December 1950, H. Cane (C.S.I.R.O.).

***Euander torquatus* (Erichson) nov. comb.**

Plate 16, fig. C

Pachymerus torquatus Erichson, 1842: Archiv für Naturges. 8 (1): 280.

Woodward, 1962: J. ent. Soc. Qld., 1: 52, figures.

Rhyparochromus torquatus Dohrn, 1859: Catalogus Hemipterorum: 34.

Black with brown and yellow markings. Head black, with traces of a heavy pubescence, more elongate than *E. lacertosus*. First segment of antennae black, brownish at apex, second segment and extreme base of third segment pale brown, third segment otherwise and fourth black.

Anterior lobe of pronotum black with a faint tinge of brown, collar a shade paler. Hind lobe pale yellow, with a few brownish punctations and a few blackish spots one of which is largish and runs along the midline into the black of the fore lobe. Hind margin broadly excavate, lateral margins fairly straight, narrowing towards head.

Scutellum black with extreme apex white and two orange points near the apex on the disc. Sometimes these run into the white tip.

Corium and clavus yellowish-white with numerous blackish-brown punctations which coalesce to form a longitudinal black streak on the clavus and a vaguely triangular black patch in the basal third of the corium. The corium also has a large blackish patch just behind middle connected by one or two black bars to the black apical area of the corium. In the macropterous specimen the black on the corium is very much more extensive. Membrane complete or very reduced, if the latter then distinction between clavus and corium not obvious and hemelytra apparently hardened and rather "elytra" like.

Body beneath black, episterna and epimera of each thoracic segment pale. Trochanters pale, bases of second and third femora, tibiae, except at apices, and tarsi brownish. Apices of tibiae not expanded.

Length: 4-5.2 mm.

Locality: Australian Capital Territory: One macropterous specimen, Canberra, November 1929, J. Evans. Victoria: In moss, Ferntree Gully, 1 November 1918, F. E. Wilson; two in tussocks, Ringwood, F. E. Wilson (S.A.M.); Millgrove, 13 April 1927, F. E. Wilson (A.M.); Ferntree Gully, 27 July 1919, F. P. Spry; six same locality and collector, without date; two same locality and collector, 7 October 1920; fourteen, same locality, 17 and 24 July 1920, 26 July 1924 and 26 April 1925, F. E. Wilson; Eltham, September 1927, F. E. Wilson; six, Upway, J. E. Dixon; five without exact date or locality, J. E. Dixon; five also without exact locality or date, F. P. Spry (N.M.).

Our figure was checked, in Europe, by Dr. T. E. Woodward, against Erichson's type, from Tasmania.

Genus *Porander* gen. nov.

Pronotum at apex narrower than head with eyes, wider at base than length, disc somewhat flattened with an incipient transverse sulcus well behind middle. Anterior margin raised to form a conspicuous collar which has two short lateral tooth-like processes. Lateral

margins curved in just before collar, sinuate in region of sulcus, obtuse in front of sulcus, with an acute margin behind.

Scutellum about as long as wide, hemelytra with abbreviated membrane and dividing line between corium and clavus obscure. Punctations on hemelytra numerous but not so obviously placed in lines as on *Euander*.

Head, anterior lobe of pronotum and scutellum with numerous large pit-like punctations, each containing a short white hair.

Fore-femora much more incrassated than *Euander* with four prominent teeth beneath and many smaller ones. Fore-tibiae curved. First segment of tarsi longer than remaining two together.

Type of genus: *Porander scudderi* sp. nov.

This genus is apparently closely related to *Euander*. It differs from it in the curious punctations of the head, fore lobe of pronotum, and scutellum, and the much more incrassate fore femora. The pronotal constriction is well posteriad and *Porander*, although related to *Euander*, appears to be also on a side branch from the main line of development.

***Porander scudderi* sp. nov.**

Plate 15, fig. D

Black with luteous white markings. Head black, eyes dark brown. Head has a rather short white sparse pubescence mainly located in the punctations. First, third and fourth segments of antennae black, second segment brown.

Anterior lobe of pronotum black with numerous coarse deep punctations each bearing a hair and with odd small smooth areas scattered over disc. Collar narrow, brownish-luteous with a single row of punctations across it. Hind lobe of pronotum luteous with numerous coarse brownish punctations many of them concentrated into about five longitudinal fuscous areas.

Scutellum black, with same hair bearing pit-like punctations as head, extreme apex white and also two white points on disc near apex, sometimes confluent with it.

Hemelytra with a vestigial membrane, luteous with numerous blackish-brown punctations and some odd small infuscated patches.

Body beneath black, rostrum brownish. A luteous spot on the propleurae on the frontal margin beneath and marking the end of sulcus above. Visible portion of connexivum (except for a transverse dark

bar), hind margin of metapleura (except for a cluster of dark punctations), and patches on upper hind corners of abdominal pleurae V, VI, and VII, luteous. All tibiae and tarsi brownish, extreme apices of femora and bases of tibiae luteous.

Length: 4-6 mm.

Locality: South Australia: Holotype male, allotype female, two paratype males, sweeping undergrowth, *Eucalyptus obliqua* dry sclerophyll forest, Naracoorte Cave Reserve, 25 October 1958, G. F. Gross; two paratype males, one nymph, Vivonne Bay, Kangaroo Island, Museum Expedition, February 1926 (S.A.M.). New South Wales: One paratype male, Gosford (S.A.M.); Sydney, 2 November 1930, K. Spence; Waverley, Sydney, 1 November 1901, W.G.B.; North Bondi, October 1930, K.K.S. (A.M.). Australian Capital Territory: Three paratype males and one paratype female, sweeping vegetation, Black Mountain, Canberra, 26 November 1959, G. F. Gross (S.A.M.). Victoria: One paratype female, Woori Yallock, F. E. Wilson; two paratype females, Eltham, J. E. Dixon (N.M.). Tasmania: One paratype, Bridport, October 1913 (S.A.M.); in fallen leaves, Hobart, Lea (G. G. E. Scudder Coll., Vancouver).

Genus *Udeocoris* Bergroth

Udeocoris Bergroth, 1918: Ann. hist. nat. Mus. hung., 16: 310.

Head oblong, with eyes a little wider than apex of pronotum. Eyes touching or not anterior margin of pronotum, ocelli present, close to eyes. Pronotum wider than long, without a collar or any trace of a sulcus; anterior margin straight, lateral margins straight, converging towards apex, fairly acute or almost carinate. Humeral angles of pronotum rounded, hind margin shallowly concave. Disc of pronotum nearly flat, a little more arched in the anterior region.

Scutellum about as long as wide or longer; very flat, sometimes finely punctate, just a trace of longitudinal keel. Hemelytra with or without an abbreviated membrane, when membrane is abbreviated the hemelytra become coriaceous and the division between corium and clavus obscure.

Fore femora moderately incrassated, with a row of four to seven robust spines on the apical half on the inner ventral margin, the teeth becoming regularly smaller from apex of femora to middle. Hind and middle femora flattened, first segment of last tarsus longer than the apical pair together.

Type of genus: *Udeocoris nigroaeneus* (Erichson)

The genus is evidently close to *Euander* which it resembles in general coloration, in the black fore portion of the pronotum and stramineous but darkly punctate hind region. It differs in showing not the slightest trace of a transverse constriction on the pronotum. It therefore seems to be the first member of a sub-line of genera of these peculiar Myodochini in which the typical Myodochine constriction is completely lost. *Udeocoris* is the apparent link between *Euander* and *Telocoris*.

***Udeocoris nigroaeneus* (Erichs)**

Plate 15, fig. B

Pachymerus nigroaeneus Erichson, 1842: Arch. für Naturges., 8 (1): 280. Woodward, 1962: J. ent. Soc. Qld., 1: 54, figures.

Rhyparochromus nigroaeneus Dohrn, 1859: Catalogus Hemipterorum: 34.

Udeocoris nigroaeneus Bergroth, 1918: Ann. hist. nat. Mus. hung., 16: 311.

Shining black, with or without yellowish-brown markings. Head shining black with scattered long hairs, eyes dark brown. First and last segments of antennae dark chocolate brown, second and third segments brown. Last three segments with scattered long hairs and a fine adpressed pilosity.

Pronotum shining black, very sparsely punctate. Sometimes the humeral angles are obscurely brownish.

Scutellum black, sparsely punctate, extreme tip usually pale. Hemelytra occasionally developed but generally with very reduced membrane and distinction between clavus and corium obscure. When humeral angles of the pronotum are pale the costal margin is also narrowly brown along the basal half. In one macropterous specimen there is also a pale spot on the costal margin just before the apex. Membrane when developed hyaline, brownish near apical margin of corium. In the fully winged form the punctures on the clavus are not in three regular rows.

Beneath shining black, connexivum, bottom edges of epimera and episterna, trochanters, apices of femora, tibiae and tarsi yellowish-brown. Tibiae with scattered black spines. Rostrum dark brown. The Rockhampton specimen is castaneous.

Length: 4.5-6 mm.

Locality: Torres Straits: Three, Moa Island, C. T. McNamara (S.A.M.). Queensland: Cairns; Townsville (S.A.M.) Scrubby Creek, 1 mile E. of Fairy Bower, Rockhampton, 3 August 1950, T. G. Campbell (C.S.I.R.O.). This last specimen is wholly castaneous, with pale eyes, antennae, tibiae and tarsi. New South Wales: Two, Island Bend, Snowy Mountains, 20 October 1957, D. J. Wimbush; Hotel Kosciusko, Snowy Mountains, 10 October 1957, D. J. Wimbush (C.S.I.R.O.); Mount Kosciusko, 5,000ft., February 1926, H. J. Carter (A.M.). Australian Capital Territory: Blundell's, 10 October 1930, W. K. Hughs (C.S.I.R.O.). Victoria: Bogong Plains, 5,600-6,000ft., January 1928, F. E. Wilson; Mildura (N.M.). Tasmania; In tussocks, Stanley; Lake Margaret, 12 January 1937, G. and C. Davis—this specimen is fully winged; Magnet, G. P. Whitley; Cradle Mountain, Carter and Lea; same locality, 27 December 1915, Prof. Flynn; twelve, Great Lake, December 1906 and 1907, J. W. Mellor; in tussocks, Huon River, Lea; Waratah, 12 March 1916 (S.A.M.). South Australia: Berlese Funnel out of leaf debris, Naracoorte Bog, February 1959, P. Aitken (S.A.M.). Western Australia: Boyup Brook, March 1936, D. Q. Norris; Fremantle, 15 November 1934, K. R. Norris (C.S.I.R.O.); Warren River, W. D. Dodd; Swan River; two without exact locality (S.A.M.). Timor: There is a species hardly distinguishable from this in Timor, but all specimens I have are macropterous, whereas macroptery is very rare in the Australian specimens. A larger series is needed from the island before its identity can be established, these I hope to obtain from a coming second expedition to the island.

Our figure was checked by Dr. T. E. Woodward against Erichson's type and specimens labelled "*Udeocoris* (n.g.) *nigroaeneus*" in Bergroth's handwriting, in the collection of the British Museum, from Fremantle, Western Australia.

***Udeocoris rolandi* (Distant)**

Plate 16, fig. B

Naudarensia rolandi Distant, 1918: Ann. Mag. nat. Hist., (9) 2: 492.

Black, with luteous and brown markings. Head black with sparse black hairs, finely rugulose, eyes brown. First segment of antennae (except at apex, which is paler) and fourth segment dark brown, second and third segments yellowish-brown. First, second and third segments with long hairs.

Anterior two-thirds of pronotum shining black, densely punctate, but extreme anterior margin yellowish-brown. Hind portion of

pronotum luteous but with numerous black or brown punctations tending to darken the whole area, five vague fuscous longitudinal bands further darken the area.

Scutellum black, feebly arched with punctations arranged in two longitudinal rows, apex white sometimes with odd white points on the disc in the apical region.

Hemelytra may be normal, or brachypterous with membrane very reduced. Ground colour of corium and clavus luteous but with many brown or black punctations making the whole appear darker, there are seven fuscous areas, the largest being on the apical margin of the corium and the other in the apical angle. When the membrane is reduced the "elytra" leave uncovered the last two, and half of the third-to-last abdominal segments. Membrane black with white veins.

Beneath black with some long white hairs and an extremely fine white adpressed pilosity. Rostrum, rostral canal, the anterior ventral portion of the prothorax, posterior margin of pro-, meso-, and metapleurae, coxae and femora brown. Epimera and episterna of all three thoracic segments, trochanters, tibiae and tarsi yellowish-brown, connexivum luteous.

Length: 4-6 mm.

Locality: New South Wales; Bogan River, October 1931, J. Armstrong; Euralie, Narrandera Road, 9-19 October 1932, K. C. McKeown (A.M.); Broken Hill (S.A.M.); two, Coolabah, November 1905, W.G.B. (C.S.I.R.O.). Victoria: Melton, 25 October 1917, F.E.W. (S.A.M.). Bass Strait: Clifty Island, 25 November 1949, D. J. Tugby (N.M.). South Australia: Tapanappa near Cape Jervis, 5-9 December 1949, G. F. Gross and N. B. Tindale; two, roadside swamp, Myponga, 26 November 1947, G. F. Gross; Yurgo, M. H. Hopgood; Port Wakefield; two, Flinders Island, F. Wood Jones; Ilka Creek, Flinders Ranges, 24 November 1948, D. R. Hall; Italowie Gorge, Flinders Ranges, 30 October 1955, E. T. Giles; Leigh Creek; Flinders Ranges, September 1925; twenty-five, Moolooloo, 2,000ft., Flinders Ranges, 1921, H. M. Hale; Upper Arcoona Creek, Gammon Ranges, 18 September 1956, G. F. Gross; Purple Downs; Miller Creek, F. Wood Jones; two, Blow Hole entrance, near Koonalda, 1 January 1960, P. Aitken (S.A.M.); Blowhole near Ooldea, Troughton and Wright (A.M.). Western Australia: Mullewa, Miss F. May; Beverley, E. F. du Boulay S.A.M.). Port Hedland, October, Mjöberg (R.M.S.). Northern Territory: Fourteen, Double Punch Bowl meteorite crater, Henbury, 15-17 October 1953, G. F. Gross; six, near Alice Springs,

M. W. Mules; Finke River, J. W. Roe; Coniston Station near Alice Springs, M. W. Mules (S.A.M.).

***Udeocoris scudderi* sp. nov.**

Plate 16, fig. D

Black with dark brown and creamy white markings. Head shining black with a few long black hairs. Eyes, and first and last segments of antennae dark brown, third segment brown, second yellowish-brown.

Anterior two-thirds of pronotum likewise shining black with a few sparse long hairs, extreme anterior margin reddish-brown. Hind third creamy-white with scattered pale brown punctations.

Scutellum shining black, with sparse long black hairs, apex white.

Corium and clavus creamy-white in the main, with brown punctations, a small brown spot on clavus just behind middle. On corium two-thirds of the way back a wide transverse irregular brown band which may or may not be joined along the apical margin to the brown apical angle. Membrane when developed hyaline, otherwise hemelytra hardened and distinction between corium and clavus obscure.

Beneath shining black, punctate, pilose, hind margins of all thoracic pleurae, all epimera and episterna and connexivum creamy white. Anterior portion of prosternum reddish-brown. Coxae, trochanters, fore femora and apical halves of mid- and hind-femora dark brown, remainder of legs yellowish-brown, tarsi darker.

Length: 2.5-4 mm.

Locality: Western Australia: Holotype male, seven paratypes (three of them larvae), Beverley, E. F. du Boulay (S.A.M.). Victoria: Allotype female, fully winged, Lake Hattah, J. E. Dixon, donated January 1940 (N.M.). New South Wales: Paratype, Bogan River, January 1932, T. Armstrong (A.M.).

Differs from *U. rolandi* in its smaller size and the different pattern on the hemelytra.

Genus *Telocoris* gen. nov.

Head triangular, eyes not very prominent, touching anterior margin of pronotum. Pronotum a little wider than head with eyes, lateral margins faintly curved, obtuse, no trace of a transverse sulcus. Collar indistinct.

Scutellum relatively large, longer than wide. Hemelytra normal and fully developed, clavus with punctures in three regular rows.

Fore femora somewhat incrassate, without spines. Mid- and hind-femora not noticeably expanded. Fore-tibiae about as long as femora, hind-tarsi with first segment about as long as apical pair together.

Type of genus: *Telocoris vittata* (Distant)

This genus seems to stand naturally at the end of the line of these modified genera. The pronotum is absolutely without trace of a transverse constriction, the fore-femora although still somewhat thickened, are unarmed, and the habitus is much more like that of a Lethaeine than a Myodochine. Its nearest relation would appear to be *Udeocoris*.

***Telocoris vittata* (Distant) nov. comb.**

Plate 15, fig. A.

Lamprodema vittata Distant, 1901: Ann. Mag. nat. Hist., (7) 8: 500.

Black or dark castaneous; hind angles of pronotum, antennae, basal two-thirds of corium and the whole anterior margin, outer half of clavus, and tibiae and tarsi, paler, almost luteous. Apical third of corium and inner half of clavus castaneous may be coarsely punctate, the latter then is laevigate along the central longitudinal area.

Length: 4.5 mm.

Locality: North Western Australia: Parry Harbour, Cape Bougainville, J. T. Walker (Distant's type—B.M.); Broome, Mjöberg (R.M.S.); Northern Territory: Roper River, N. B. Tindale (S.A.M.). Queensland: Clermont, K. K. Spence (A.M.).

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